



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
401 M Street, S.W.  
WASHINGTON, D.C. 20460


Form Approved OMB No. 2070-0060

**Paperwork Reduction Act Notice:** The public reporting burden for this collection of information is estimated to average 0.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the form to this address.

DATA MATRIX

Date 8/15/2015	EPA Reg No./File Symbol 73032-1	Page 1 of 2
Applicant's/Registrant's Name & Address Lords Additives LLC 17 Hart Lane Sewell, NJ 08080-9734		Product Lord's ZB-SHIELD

Ingredient Zinc Borate

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
830.1550	Product Identity & Composition		Lords Additives LLC	OWN	
830.1600	Description of Materials		"	"	
830.1620	Description of Production Process		"	"	
830.1670	Formation of Impurities		"	"	
830.1700	Certified Limits		"	"	
830.1750	Enforcement Analytical Limit		"	"	
830.1800	Preliminary Analysis		"	"	
830.6302	Color		"	"	
830.6303	Physical State		"	"	
830.6304	Odor		"	"	
830.6313	Stability		"	"	1
830.6314	Oxidation/Reduction		"	"	2
830.6315	Flammability		"	"	3
830.6316	Explosibility		"	"	4
830.6319	Miscibility		"	"	5
Signature 			Name and Title Stephen G. Bales General Manager		Date 09/28/2015



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Lords Additives LLC 17 Hart Lane Sewell, NJ 08080-9734

Product

Lord's ZB-SHIELD

Ingredient Zinc Borate

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Note
830.6317	Storage Stability		Lords Additives LLC	OWN	6
830.6320	Corrosion Characteristics		"	"	7
830.6321	Dielectric Breakdown Voltage		"	"	8
830.7000	pH		"	"	
830.7050	UV/Visible Absorption		"	"	9
830.7100	Viscosity		"	"	10
830.7200	Melting Point/Melting Range		"	"	11
830.7220	Boiling Point/Boiling Range		"	"	12
830.7300	Density		"	"	
830.7370	Dissociation Constant		"	"	13
830.7840	Water Solubility		"	"	
830.7950	Vapor Pressure		"	"	14
Signature				Name and Title	Date
				Stephen G. Bales General Manager	09/28/2015




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			"	"	
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			"	"	
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			"	"	
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			"	"	
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Product

Lord's ZB-SHIELD

Ingredient Zinc Borate

Guideline Reference Number

Guideline Study Name

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Lords Additives LLC

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Signature

Name and Title

Stephen G. Bales General Manager

Date

09/28/2015

### Attachment to Form 8570-35

1. **Stability:** The material contains zinc metal and has no known problems coming into contact with other metals and metal ions. It is stable at over 500 °C and is a fire retardant. It does not come into contact with other metals during storage.
2. **Oxidation/Reduction:** This chemical is used widely as a fire retardant. It is not an oxidizing or reducing agent.
3. **Flammability:** The material is a fire retardant.
4. **Explosibility:** This chemical is remarkably stable. As a fire retardant it is routinely incorporated into plastics by compounding, a process that adds heat and pressure to the material in an enclosed space.
5. **Miscibility:** N/a: This chemical is never diluted with oil or other non-polar solvents.
6. **Storage Stability:** 3 month test in progress; previous tests done in support of earlier registrations for this chemical show it does not degrade over a one year period.
7. **Corrosion characteristics:** Previous testing clearly indicates this material does not cause corrosion; this will be verified again during the storage stability testing.
8. **Dielectric breakdown voltage:** N/A: The material is a powder, not a liquid, and does not conduct electricity.
9. **UV/Visible absorption:** N/A: use is embedded at low loadings (1 to 5 %) in other end use products, such as plastics and wood. It is not directly exposed to UV.
10. **Viscosity:** N/A – the material is a powder
11. **Melting Point:** Lord's Additives LLC is submitting a melting point of > 500 °C. This value is determined from the procedure involved in performing the Preliminary Analysis (830.1700) described in Volume III.

To determine the amount of bound water, 5 samples were heated to 500 °C for 4 hours. The resulting weight loss in all cases corresponded to the waters of hydration (13.79 to 14.70%). There was no other weight loss recorded.

Lord's Additives LLC therefore submits that the melting point of Lord's ZB-SHIELD is > 500 °C. As additional information, this value corresponds well to the value given in the 1991 EPA Fact Sheet for Zinc Borate of > 550 °C and the value listed in the American Wood Preservers Association standard for Zinc Borate which states "Phase Change at 650 °C".